

IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) A method of printing cartridge maintenance comprising:
~~reading printing history data for said printing cartridge and a predetermined usage threshold stored in a memory device on said printing cartridge,~~
~~determining a remaining useful life of a printing cartridge; and~~
~~refilling at least a portion of said printing cartridge if usage of said cartridge, as determined from said printing history data, does not exceed said remaining useful life is above a predetermined threshold.~~
2. (original) The method of claim 1, wherein refilling at least a portion of said printer cartridge further comprises determining a current level of consumable substance contained in said printing cartridge.
3. (currently amended) The method of claim 1, ~~further comprising~~ wherein determining a remaining useful life of said printing cartridge ~~by comparing said further comprises reading printing history data and said predetermined threshold recorded in a memory device of said printing cartridge.~~
4. (currently amended) The method of claim 3, wherein determining a remaining useful life of said printing cartridge further comprises ~~outputting an indication of said remaining useful life comparing said printing history data to predetermined values.~~

5. (currently amended) The method of ~~claim 3~~ claim 1, further comprising recording any amount of consumable substance added to the printing cartridge in said memory device.

6. (original) The method of claim 5, further comprising reading customer identification information recorded on said printing cartridge.

7. (currently amended) The method of ~~claim 3~~ claim 1, further comprising replacing or resetting said memory device after reading said printing history data.

8. (currently amended) The method of claim 1, further comprising preventing the refill of said printing cartridge if said usage as determined from said printing history exceeds remaining useful life is less than said predetermined threshold.

9. (original) The method of claim 1, further comprising reconditioning said printing cartridge.

10. (original) The method of claim 9, wherein said reconditioning comprises emptying or cleaning a collection chamber of said printing cartridge.

11-19. (cancelled).

20. (currently amended) A device refilling system comprising:
a printing cartridge for containing a supply of consumable substance;

a memory device incorporated with said cartridge for recording a printing history of said cartridge; and

a refilling station for reading information recorded on said memory device and selectively refilling said cartridge;

wherein said refilling station includes a computer for reading said printing history of said memory device and for determining a remaining useful life of the cartridge; and

wherein said computer compares said printing history to one or more predetermined useful life metrics.

21. (original) The system of claim 20, wherein said memory device comprises a non-volatile memory chip readable by a computer.

22. (original) The system of claim 21, wherein said memory device comprises an RFID having an antenna for communication with a transmitter of a printing device or said refilling station.

23-24. (cancelled).

25. (currently amended) The system of claim [[23]] 20, wherein said refilling station prevents refilling of said cartridge if said computer determines said cartridge has no remaining useful life.

26. (currently amended) The system of claim [[23]] 20, wherein said refilling station further comprises a supply of consumable substance.

27. (original) The system of claim 26, wherein said filling station further comprises a consumable substance delivery port for refilling said cartridge.

28. (original) The system of claim 27, wherein said cartridge further comprises a consumable substance refill port configured for engagement with said substance delivery port for receiving consumable substance from said refilling station.

29. (original) The system of claim 28, wherein said cartridge further comprises an inkjet cartridge.

30. (original) The system of claim 28, wherein said cartridge further comprises a toner cartridge.

31. (original) The system of claim 30, wherein said toner cartridge is a laser printer toner cartridge or a copier toner cartridge.

32. (original) The system of claim 20, wherein said printing history comprises one or more of: printing cartridge use time, quantity of consumable substance delivered, number of pages produced, number of pixels printed, number of cleaning cycles performed, number of calibrations cycles performed, types of jobs printed, age of printing cartridge from manufacture date; and cartridge time above a specified temperature.

33. (original) The refilling station of claim 20, further comprising a consumable substance gauge for measuring the amount of consumable substance in said printer cartridge.

34. (currently amended) A method of refilling a printing cartridge comprising the steps of:

providing a refill station having a cartridge receptacle and a delivery port configured to engage said cartridge when said cartridge is placed in said cartridge receptacle removed from said printing device;

reading usage information stored on said cartridge to said refill station when said cartridge is mated to in said cartridge receptacle;

and replenishing a substance in to said cartridge through said delivery port by said refill station if said usage information indicates said cartridge has not been used beyond a useful operational life of said cartridge.

35. (currently amended) The method of claim 34, further comprising:

recording to said cartridge at the time of refill the an amount of said substance delivered.

36. (currently amended) The method of claim 34, further comprising:

providing a database writable by said refill station;

receiving a customer identifier from said cartridge when in [[by]] said refill station; and

recording at the time of refill said customer identifier to said database; and recording at the time of replenishment to said database the amount of said substance refilled.

37. (currently amended) The method of claim 34, further comprising:
~~providing a user interface whereby a state of said printing device may be communicated to an operator, and~~
~~indicating with a user by said interface on a printing device in which said cartridge is~~
installed that said cartridge may be refilled when said substance is exhausted from said cartridge and said useful operational life has not been expended.

38. (original) The method of claim 34, further comprising:
automatically tracking usage of said cartridge; and
recording said usage to said cartridge as said cartridge is used.

39. (currently amended) The method of ~~claim 38 claim 34~~, further comprising:
reading said useful operational life from said cartridge, said useful operational life being written to said cartridge ~~at the time of~~ ~~during~~ manufacture of said cartridge.

40. (original) The method of claim 34, further comprising reconditioning said printing cartridge.

41. (original) The method of claim 41, wherein said reconditioning comprises emptying or cleaning a collection chamber of said printing cartridge.

42. (original) A printing cartridge refilling apparatus comprising:
a supply of consumable substance;

an interface configured for engagement with a used printing cartridge;
a delivery port through which ~~at least a portion of said supply of consumable~~
substance is ejected into a printing cartridge from said supply; and
a computer programmed to read printing cartridge history data from said printing
cartridge through said interface.

43. (currently amended) A printing cartridge comprising:

a consumable substance container;
a collection chamber for collecting said consumable substance which is discharged
from said container, but not onto a print medium;
a memory device for containing printing history data; and
a refilling port in fluid communication with said consumable substance container, said
refilling port selectively operational according to predetermined printing history data
parameters.

44. (new) The printing cartridge of claim 43, wherein said consumable substance
container includes multiple containers for a variety of different consumable substances; said
refilling port selectively communicating with said multiple containers.

45. (new) The printing cartridge of claim 44, further comprising a controller for
controlling said refilling port to selectively communicate with said multiple containers.

46. (new) A method of making a printing cartridge comprising:
disposing a memory device on said printing cartridge for storing printing history data;
and
storing a predetermined usage threshold in a memory device on said printing cartridge
such that a remaining useful life of said printing cartridge can be determined by comparing
said predetermined usage threshold and printing history data stored on said memory device.

47. (new) The method of claim 46, further comprising filing a container of said printing
cartridge with a consumable substance.

48. (new) The method of claim 47, further comprising providing a collection chamber
for collecting any consumable substance spilled within said cartridge.

49. (new) A refilling system for printing cartridges including a computerized filling
station comprising:

means for receiving and refilling a printing cartridge having a memory device attached
thereto;

a supply of material which is consumed during operation of said printing cartridge,
said supply being connected to said means for receiving and refilling;

means for reading and comparing both printing history data and a useful life value that
are recorded on said memory device on said printing cartridge; and

means for selectively refilling at least a portion of said printing cartridge with material
from said supply in response to a comparison of said printing history data and said useful life
value.

50. (new) The refilling system of claim 49, wherein said printing cartridge is an inkjet printer cartridge.

51. (new) The refilling system of claim 49, wherein said printing cartridge is a toner cartridge.

52. (new) The refilling system of claim 49, further comprising means for cleaning a collection chamber of a printing cartridge, wherein said collection chamber collects material spilled in a printing cartridge.